

**IN THE CLAIMS:**

Please cancel claims 1, 2, 8, 9, 15 and 16, please add claims 22-27, and please amend claims 3, 5-7, 10, 12-14, 17, and 19-21 as indicated below.

1-2. (Canceled)

3. (Currently amended) The method of claim [[1]]22, wherein a first subset of said plurality of base-level energy models includes a plurality of parameters configured for selecting physical energy model characteristics.

4. (Original) The method of claim 3, wherein at least one of said first subset includes an aspect ratio parameter configured for scaling an energy estimate according to a value of said aspect ratio parameter.

5. (Currently amended) The method of claim [[1]]22, wherein at least one of said plurality of base-level energy models includes a plurality of parameters configured for selecting microarchitectural energy model characteristics.

6. (Currently amended) The method of claim [[1]]22, wherein at least one of said plurality of base-level energy models includes a data value parameter configured for scaling an energy estimate according to a value of said data value parameter.

7. (Currently amended) The method of claim [[1]]22, further comprising deriving a respective energy estimate corresponding to each of a subset of said plurality of base-level energy models from data extracted from a previously completed design.

8-9. (Canceled)

10. (Currently amended) The computer readable medium of claim [[8]]24, wherein a first subset of said plurality of base-level energy models includes a plurality of parameters configured for selecting physical energy model characteristics.

11. (Original) The computer readable medium of claim 10, wherein at least one of said first subset includes an aspect ratio parameter configured for scaling an energy estimate according to a value of said aspect ratio parameter.

12. (Currently amended) The computer readable medium of claim [[8]]24, wherein at least one of said plurality of base-level energy models includes a plurality of parameters configured for selecting microarchitectural energy model characteristics.

13. (Currently amended) The computer readable medium of claim [[8]]24, wherein at least one of said plurality of base-level energy models includes a data value parameter configured for scaling an energy estimate according to a value of said data value parameter.

14. (Currently amended) The computer readable medium of claim [[8]]24, further comprising deriving a respective energy estimate corresponding to each of a subset of said plurality of base-level energy models from data extracted from a previously completed design.

15-16. (Canceled)

17. (Currently amended) The system of claim [[15]]26, wherein a first subset of said plurality of base-level energy models includes a plurality of parameters configured for selecting physical energy model characteristics.

18. (Original) The system of claim 17, wherein at least one of said first subset includes an aspect ratio parameter configured for scaling an energy estimate according to a value of said aspect ratio parameter.

19. (Currently amended) The system of claim [[15]]26, wherein at least one of said plurality of base-level energy models includes a plurality of parameters configured for selecting microarchitectural energy model characteristics.

20. (Currently amended) The system of claim [[15]]26, wherein at least one of said plurality of base-level energy models includes a data value parameter configured for scaling an energy estimate according to a value of said data value parameter.

21. (Currently amended) The system of claim [[15]]26, wherein a respective energy estimate corresponding to each of a subset of said plurality of base-level energy models is derived from data extracted from a previously completed design.

22. (New) A method comprising:

an architecture simulation model processing an application trace, wherein said architecture simulation model is configured to model operation of an integrated circuit;

in response to said processing, said architecture simulation model generating a given one of a plurality of energy events, wherein each of said plurality of energy events corresponds to an aspect of operation of said integrated circuit that consumes energy;

in response to said generating a given energy event, mapping said given energy event to one or more corresponding ones of a plurality of power models, wherein each of said plurality of power models hierarchically instantiates one or more of a plurality of base-level energy models, and hierarchically evaluating each of said one or more of said corresponding ones of said plurality of power models to identify each instantiated one of said plurality of base-level energy models;

for each given one of said instantiated ones of said plurality of base-level energy models, evaluating said given instantiated base-level energy model to estimate energy associated with activation of said given instantiated base-level energy model for said given energy event; and

accumulating said energy in a power estimate corresponding to said given energy event.

23. (New) The method of claim 22, wherein at least some of said instantiated ones of said plurality of base-level energy models are configured to estimate static energy consumption associated with said given energy event.

24. (New) A computer-readable medium comprising instructions, wherein the instructions are executable to implement:

an architecture simulation model processing an application trace, wherein said architecture simulation model is configured to model operation of an integrated circuit;

in response to said processing, said architecture simulation model generating a given one of a plurality of energy events, wherein each of said plurality of energy events corresponds to an aspect of operation of said integrated circuit that consumes energy;

in response to said generating a given energy event, mapping said given energy event to one or more corresponding ones of a plurality of power models, wherein each of said plurality of power models hierarchically instantiates one or more of a plurality of base-level energy models, and hierarchically evaluating each of said one or more of said corresponding ones of said

plurality of power models to identify each instantiated one of said plurality of base-level energy models;

for each given one of said instantiated ones of said plurality of base-level energy models, evaluating said given instantiated base-level energy model to estimate energy associated with activation of said given instantiated base-level energy model for said given energy event; and

accumulating said energy in a power estimate corresponding to said given energy event.

25. (New) The computer-readable medium of claim 24, wherein at least some of said instantiated ones of said plurality of base-level energy models are configured to estimate static energy consumption associated with said given energy event.

26. (New) A system comprising:

an architecture simulation model, wherein said architecture simulation model is configured to model operation of an integrated circuit;

a plurality of base-level energy models; and

a plurality of power models each configured to hierarchically instantiate one or more of said plurality of base-level energy models;

wherein said architecture simulation model is further configured to:

process an application trace;

in response to said processing, generate a given one of a plurality of energy events, wherein each of said plurality of energy events

corresponds to an aspect of operation of said integrated circuit that consumes energy;

in response to said generating a given energy event, map said given energy event to one or more corresponding ones of said plurality of power models and hierarchically evaluate each of said one or more of said corresponding ones of said plurality of power models to identify each instantiated one of said plurality of base-level energy models;

for each given one of said instantiated ones of said plurality of base-level energy models, evaluate said given instantiated base-level energy model to estimate energy associated with activation of said given instantiated base-level energy model for said given energy event; and

accumulate said energy in a power estimate corresponding to said given energy event.

27. (New) The system of claim 26, wherein at least some of said instantiated ones of said plurality of base-level energy models are configured to estimate static energy consumption associated with said given energy event.